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A REPORT ON AID TO AGRICULTURAL TECHNICAL
PROGRESS AFFORDED BY THE SZECHWAN CHEMICAL INDUSTRY

- COMMUNIST CHINA -

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A REPORT ON AID TO AGRICULTURAL TECHNICAL
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- Communist China -

[Following is a translation of a report by the party subcommittee of the department of chemical industry of the Chungking party committee which was carried in the Chinese-language newspaper Chungking Jih-pao (Chungking Daily News), Chungking, 1 April 1960, page 5.]

Members of the Szechwan party committee:

All workers in the chemical industry of Szechwan Province are enthusiastically responding to the call of the central and Szechwan party committees concerning support of agriculture by industry. They consider support for agricultural production and reforms in agricultural technology as their own assignments and have taken positive action.

For the past few years, the chemical industry in Szechwan has assisted agricultural development with outstanding results and has gained some experience. In 1959, due to the united efforts of the workers, there was a large increase in the production of chemical fertilizer, insectides, rubber goods and synthetic petroleum for agricultural use. Compared to 1958, chemical fertilizer production has increased 6.3 times; insectides, 3.1; and synthetic petroleum, 1.1. All kinds of rubber goods also increased. This has played an important role in support of agricultural technological reforms. In capital construction, efforts were concentrated on the largest nitrogen chemical fertilizer plant, the Szechwan chemical fertilizer plant, as well as on the two large Ch'ing-ping and Shih-fang fertilizer plants. These three plants went into production during the latter part of 1959. At the same time, the nitrate and ammonium sulfate shops of the Chungking insectide plant were expanded. The 666-powder production shop of the T'ien-yuan chemical works in Chungking was also expanded. Thus, the capabilities for producing chemical fertilizer and agriculture insectides were increased to provide a good base of supplies for agriculture. In order to supplement shortages of large chemical enterprises, and pursuant to the party's policy of walking on two feet, a mass movement was initiated throughout the province in 1958 to produce needed chemicals by native methods. Up to the present time, various special district, counties and communes have organized over 12,000 native agricultural insectide, chemical fertilizer and veterinary medicine enterprises of a simple nature. Over 60 percent of the fertilizer in the province

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and 47 percent of the insectides are now produced by these small factories. The development of small native and foreign enterprises and the growing experience of the peasants in producing chemical fertilizer has increased the supply and technical capability of the communes and has given timely assistance to the need of agriculture for chemical fertilizers in order to increase production. This has played an important role in realizing technological reforms in agriculture. For example, Ta-i Hsien, during the past year, has organized 17 chemical enterprises and over 2,000 seasonal plants for producing native chemical fertilizer. These have produced over 400,000 tons of chemical fertilizers and native insectides. This protected the grain crop of the hsien against natural disasters this year, so that production was still 17.17 percent above that for 1958.

During 1959, the chemical industry in Szechwan promoted technological reforms and the technical revolution in agriculture in order to improve labor productivity and to economize on the need for labor. This reduced the need for 35,000 people who must go to work in rural areas.

Since the beginning of the year, workers in the Szechwan chemical industry have positively assisted agriculture in realizing technological reforms. Under the principle of "grasping main points; holding to large and small, positively overcoming all shortcomings, and improving equipment," we have expanded the production of hog medicines, agricultural insectides, chemical fertilizer, rubber, and synthetic petroleum. In regard to raw materials, fuel, equipment and capital investment, priority was given to increasing agricultural production.

During January, a conference was held in Ta-i Hsien on small native and foreign chemical plants to introduce the experiences of Ta-i Hsien in operating small native and foreign chemical plants. In 1960, Szechwan must develop its native and foreign chemical industry in 51 counties.

On-the-spot conferences were held at the Wan-chia-shan Colliery in Chungking and the Mao-erh-shan Colliery at Fu-shun in order to promote experiences in the production of crude oil. Under the guidance of the industrial and the rural work departments of the Szechwan party committee, on-the-spot conferences were held in Chungking and Nan-ch'ung on the development of agricultural insectides and veterinary medicines in order to make plans for 1960 production of these products.

A symposium was held in Ch'eng-tu on the general use of natural gas to study and plan for the use of natural gas for the production of synthetic rubber.

In order to satisfy the needs of a great expansion in hog raising, the Southwestern Medical Works is positively experimenting with the production of many kinds of veterinary medicines. They have already achieved large-scale production of foreign and native medicines such as Furilene, carbon hexachloride, and native drugs for animal use;

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totaling over 70 kinds of medicines for animal use. The Chungking agricultural insecticide works, in order to satisfy seasonal needs of agriculture, has produced ammonium sulfate through the use of emulsions, thus shortening the reaction time by one half and increasing the capability of its equipment by 100 percent. In order to achieve an insect-free zone in 1960, the Nan-ch'ung special district plans to produce 28,410 tons of native agricultural insecticides between 1 and 10 January.

In assisting agriculture, the chemical industry has not only promoted a development in agriculture, but has also promoted a huge expansion in the chemical industry itself. The total production of Ta-i Hsien chemical works in 1959 increased 1.5 fold over that of 1958. Of this amount, 89.7 percent consists of agricultural insecticides, chemical fertilizer hu-min acid, and antibiotics for animal use. The mutual assistance between industry and agriculture has created a firm foundation for the national economy. The broad masses realize this and are aroused for positive socialist construction.

In order to implement properly the directive of the provincial party committee which says that Szechwan's support for the national economy is based on agriculture, there should be an over-all expansion of agriculture and industry should give greater support to agriculture. The chemical industry in Szechwan should do the following work well now:

Part I. Properly Provide for the Production of Chemical Fertilizer, Agricultural Insecticides, Rubber Goods, and Synthetic Petroleum

1. Regarding the production of agricultural insecticides, it is important that insecticides protect the crops against damage and assure the normal growth of these crops. According to reactions from Chungking, by wiping out insects on 10 percent of a planted area, production can be increased 10 percent.

During 1960, agriculture should not only plant early on a large scale, but it should assure a bumper harvest; therefore this will increase need for insecticides. Our preliminary plans call for the production of all kinds of insecticides amounting to 35,800 tons which is 2.3 times the 1959 amount. Finished agricultural insecticides should reach 46,000 tons which is 1.9 times that of 1959. In this way, we can cover about 50 million mou, and save 35 million chin of grain. In regard to varieties, we must satisfy the needs for such kinds of chemical fertilizers as sulfates, sulfides, nitrates, and copper sulfate. There must be an effort to produce organic potassium compounds, chemicals for injections, and 666 powder.

In regard to time, because of the seasonal nature of agriculture, over 80 percent of the agricultural insecticides must be used before August and 40 percent of the year's consumption could be used in one season. Therefore, we must think of ways to engage in shock production by organizing groups to supervise agricultural insecticide production and thus to assure the use of both native and foreign methods.

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Throughout the province, a movement should be initiated for the production of native insecticides. According to the needs suggested at a conference on insecticides and veterinary medicine, various areas in 1960 will require 70 shih chin of native agricultural insecticides for every mou of cultivated land. This figure should be raised to over 80 shih chin. If calculated on the basis of more than 10 million mou in Szechwan province, the need for agricultural insecticides in 1960 will be 2.5 to 4 million tons. At present, the Kuang-li Commune in An-chi district of San-t'ai Hsien uses over 95 chin per mou; thus achieving an insect-free commune. We feel that only by relying on the party leadership and by arousing the masses, will each one collect medicinal herbs and the communes operate factories and be capable of satisfying this demand. The development of agricultural insecticide production depends on the supply of raw materials. The Chungking oil refinery will produce 10,000 tons of pure benzene and 5,000 tons of hydroxylbenzene annually. The Chungking agricultural insecticide plant will produce 1,000 tons of ammonium sulfate. A plant being built in I-pin will produce 6,000 tons of 666 powder annually. At the same time, we must build native insecticide plants so that these plants can be used and domesticated. Use all materials comprehensively. Utilize all waste products and seek substitutes, economize in use. Follow these four principles in use and overcome all obstacles.

2. Regarding the production of chemical fertilizers: in general, chemical fertilizers still do not satisfy the needs of expanding agriculture. It is estimated that in 1960, all kinds of chemical fertilizers produced will reach 320,000 tons which is an increase of 400 percent over 1959 production. Of this amount, nitrate fertilizer will account for 95,000 tons; lime fertilizer, for 210,000 tons; and phosphate fertilizer, for 1,000 tons. If we estimate the cultivated area of the province as 120 million mou and if each mou will need 5.3 chin, we must increase investments in chemical fertilizer production 47 percent. We must build a chemical works to produce four items: two or three plants for synthetic nitrogen and one or two plants for nitrates and also we must positively develop synthetic ammonium and small scale fertilizer plants so that chemical fertilizer production will reach approximately 600,000 tons. We must adopt the policy of walking on both feet in order to increase the production of native chemical fertilizers to meet the growing needs of agricultural production.

3. Regarding rubber production in 1960, we must produce 1.5 million meters of hose which is an increase of 31.6 percent over 1959. This will serve 3,500 sets of equipment. We must produce 150,000 sets of tires which is a 500 percent increase over 1959. These will serve 75,000 carts. In this way, we can save manpower in water supply and in transportation amounting to about 10 million man-days. We also plan to produce 30,000 automobile tires which is an increase of 330 percent over 1959. We plan to produce 50,000 square meters of

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transmission belts; an increase of 25 percent. The problem at the moment is the shortage of raw materials; so that in addition to reforms in production and technological improvements, we must reduce the use of raw rubber, make greater use of waste rubber, and increase the production of synthetic rubber.

Therefore, we have concentrated our work and techniques on making synthetic rubber out of natural gases so that we can provide equipment in 1960 for the future development of the synthetic rubber industry.

4. Regarding synthetic petroleum, the use of agricultural machinery will increase in 1960 so that there will be a great demand for petroleum products. We plan to produce 70,000 tons of crude oil with a possible goal of 10,000 tons. This is seven times that of 1959. While developing the production of synthetic petroleum, it is necessary to extract oil by the distillation process. The Mao-erh-shan colliery in Fu-shun has succeeded in extracting 3.5 percent oil by natural methods without using steel. The Hsiao-ch'eng-t'ui plant in Tsung-ch'ing succeeded in extracting 96 percent oil by dry distillation methods. Develop the comprehensive use of coke, oil, chemicals, gases, and water. Expand petroleum chemistry in order to obtain charred crude and other chemical products.

Part II. Promote the Development of Multitype Operations in Rural Areas

1. Properly provide for the supply of medicines for animal use as this is the weak link in the chemical industry at present. Follow the principles of "prevention first, integration of Chinese and western methods, use of native and foreign methods together; increase varieties and assure quality." While assuring the supply of medicines for human use, expand the production of medicines for animal use. The party committee has called for raising 45 to 60 million head of hogs this year; therefore it will be necessary to increase the output of all kinds of animal medicines; especially those for hogs. By dividing the work with agricultural and commercial organs, chemical plants plan to produce during 1960, 397 tons of medicines at the rate of 101 tons a quarter for animal use consisting of Furilene, carbon hexachloride, Glauber's salts, and ichthyolum. However, many raw materials are still unavailable in Szechwan, so the production of powders, tablets, and injections is still far short of needs; therefore, it is necessary to initiate a mass movement for the production of native medicines for animals. The Szechwan agricultural and animal chemical conference called for the production of 2.5 million tons of native medicines for animals. Each hog will be assured of an average of over 2.5 liang of drugs to treat it for general health, reproduction, and weight.

2. Under the policy of multitype operations, there should be many more new varieties. In addition to comprehending the situation in agriculture, forestry, livestock, subsidiary and fish production, workers in the chemical industry must experiment and produce new varieties of chemicals.

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Part III. Promote Commune Chemical Industries

Encourage the operation of chemical plants by communes both for the production of chemical fertilizer, insectides, medicines for animals, and for satisfaction of the general needs of subsidiary production. This will strengthen the collective economy of the commune and will increase the commune's share of its economy and thus will create favorable conditions for ownership by the whole people. Therefore the chemical industry must promote a movement for native plants by strengthening and expanding their use. In addition to reorganizing the existing 12,000 small plants in Szechwan, the number of plants must be expanded to supply the needs of agriculture and livestock growing. Commune plants should produce native insectides, fertilizers, animal medicines and antibiotics. Expand the production of aldehyde from bran, starch from sweet potatoes, resins from wood, antibiotics from bran and oil cake, bitter root for injections, and the comprehensive use of forestry products for making subsidiary products and chemicals. Increase production and quality with experimental plots and hog pens. Learn farming in order to expand the use of chemicals.

In order to provide communes with equipment for chemical production, native industries should be encouraged to produce more glass, ceramics, and paper, and to gather wild fiber and alcohol-making plants to make chemicals.

The chemical industry must assist communes with the technical work by adopting eight steps: transfers from one shift to another, attaching apprentices to workers, taking lessons, teaching, visits, on-the-spot meetings, experimentation, and demonstrations. Over 10,000 technicians must be trained for the communes.

Part IV. Assist Agriculture with Manpower and Materials

At present, manual methods are still basic in agriculture and there is a serious shortage of manpower. The chemical industry must stress partial and full automation; the core of the technical innovation and technological revolution movement, in order to increase the efficiency of labor by 60 percent in 1960. The sulfur trade, which requires much manual labor, should try to economize about 20 percent (this is 10,300 man-days) in order to support agriculture.

During the busy farming season last year, the chemical industry organized teams and sent them to assist the farmers with spring plowing, fall harvesting, fertilizer spreading, and fighting drought. It also sent technicians to assist with machine operation and repairs and building irrigation works. Economizing on food, growing pigs and vegetables, and achieving self-sufficiency in subsidiary foods are good ways to help out agriculture. These methods will be promoted in 1960.

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To carry out this work properly, it is first necessary to do socialist education work well. The workers must be taught to support agriculture and to understand the relation between agriculture and the chemical industry. The workers must voluntarily assist agriculture as a regular good deed. Each plant must ally itself with a commune in order to take positive steps to assist agriculture.

All special district, municipal, district, and county offices in charge of chemical work and all large and medium enterprises must strengthen their leadership by designating full time personnel, by making plans, by grasping main points, by holding meetings, and by calling experience exchange conferences. Mobilize the masses to think of new ways to support agriculture. Improve the work so that the chemical industry can play a positive role in the development of agriculture.

Party leadership is the assurance for good work. During 1959, party committees at all levels paid much attention to chemical production; thus assuring the above-quota completion of the national economic plan by the chemical industry. The assignments of the chemical industry in 1960 are heavy; therefore the party must strengthen its leadership so that it can fulfill the needs of agriculture for an over-all leap forward in the national economy.

Party subcommittee of the chemical industry department of the Szechwan party committee. (17 February 1960)

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